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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,057	12/31/2001	Han-Su Yee	053785-5046	5635

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EXAMINER

WARREN, MATTHEW E

ART UNIT PAPER NUMBER

2815

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/032,057	Applicant(s) YEE ET AL.	
	Examiner Matthew E. Warren	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the Amendment filed on April 4, 2005.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,790,222) in view of Shin (US 5,828,433).

In re claim 1, Kim shows (figs. 4 and 5) an array substrate for a liquid crystal display device, comprising; a gate line (42); a data line including a first data line (43) having a first width and a second data line (49) having a second width overlying the first data line, the second width is larger than the first width; a passivation layer (44) between the first data line and the second data line; a pixel electrode (51) in a pixel region, the pixel region being defined by a crossing of the gate line and the data line; and a thin film transistor connected to the pixel electrode (col. 3, lines 1-12). In re the limitations of the pixel electrode being formed during a same process as the second data line, a "product by process" claim limitation is directed to the product per se, no matter how actually made, In re Hirao, **190 USPQ 15 at 17**(footnote 3). See also in re Brown, **173 USPQ 685**; In re Luck, **177 USPQ 523**; In re Fessmann, **180 USPQ 324**; In re Avery, **186 USPQ 116** in re Wertheim, **191 USPQ 90** (**209 USPQ 254** does not deal

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with this issue); and In re Marosi et al, **218 USPQ 289** final product per se which must be determined in a “product by, all of” claim, and not the patentability of the process, and that an old or obvious product, whether claimed in “product by process” claims or not. Note that Applicant has the burden of proof in such cases, as the above case law makes clear. “Even though product-by- process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process.” In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

Although the limitation of the pixel electrode being formed during a same process as the second data line is a product by process limitation, Shin discloses (fig. 2e and col. 4, lines 16-46) that an ITO material used to form the pixel electrode 6 at the same time is used to form the data electrode (6A). With such a configuration, the process steps and costs used in manufacturing the LCD can be reduced (col. 5, lines 40-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the pixel electrode and data line of Kim by forming them simultaneously as taught by Shin to reduce the manufacturing process and associated costs.

In re claim 2, Kim shows (figs. 4 and 5) the device further includes contact hole in each pixel region for connecting the first data line (43) to the second data line (49).

In re claim 3, Shin shows (fig. 2e) that the passivation layer (9) is disposed on the thin film transistor (parts of 4 and 5).

In re claims 5-7, Shin discloses (col. 13, lines 63-67) that the first data line is made of a conductive layer which broadly includes at least one of molybdenum (Mo), tungsten (W), chromium (Cr), and nickel (Ni). Shin also discloses (col. 4, lines 16-26) that the ITO layer (6A) and the pixel electrode include at least a transparent conductive material, wherein the transparent conductive material includes at least indium tin oxide (ITO). With such a configuration, high contact resistance between the source pad and source can be avoided (col. 4, lines 35-46). Kim also discloses (col. 5, lines 19-22) that the second data line and the pixel electrode include a transparent material of ITO.

Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,790,222) in view of Shin (US 5,828,433) as applied to claim 1 above, and further in view of Wook (US 5,894,136).

In re claims 8-10, Kim and Shin show all of the elements of the claims except the source electrode having a first width and connected to the first data line a second electrode having a second width connected to the second data line. Wook discloses (col. 1, lines 47-56) that the thin film transistor includes the gate electrode, and shows (fig. 3) a first source electrode has a first width connected to the first data line, a second source electrode has a second width connected to the second data line because the source electrode is integrally formed with the data line (col. 2, lines 18-19). A drain electrode is spaced apart from the first source electrode. The second source electrode

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is formed over the first source electrode. With this configuration, the source electrode would have reduced contact resistance. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the source electrode of Kim and Shin by forming a first source electrode having a first width and a second electrode having a second width as taught by Wook to reduce the contact resistance of the source electrode.

Response to Arguments

Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Warren whose telephone number is (571) 272-1737. The examiner can normally be reached on Mon-Thur and alternating Fri 9:00-5:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MEW

June 10, 2005


GEORGE ECKERT
PRIMARY EXAMINER